

REMARKS

The Office action dated April 12, 2011, and the references cited therein, have been received and carefully reviewed.

Claim 22 was rejected under 35 U.S.C. 112, second paragraph. It is believed, however, that claim 21 was intended. That being so, the term "the circumferential membrane" in claim 21 has been changed to "the circumferential web", which finds clear basis in claim 1 from which claim 21 depends.

Favorable reconsideration and withdrawal of the rejection is thus urged.

Claims 1, 6-11, 13, 17-19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filser et al., in view of Bodenmiller et al., in further view of Suttor et al., in further view of Hintersehr (DE 44 36 231). Claims 3-4, 12, 14-16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filser et al., in view of Bodenmiller et al. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Filser et al. in view of Bodenmiller et al., in further view of Hintersehr.

Applicants submit that the prior art references do not disclose or suggest the invention as presently claimed.

The Filser et al., Bodenmiller et al., and Suttor et al. references have been discussed at length by the Applicants during

the lengthy prosecution of this case.

The following is set forth by way of a brief review of these references.

Filser et al. clearly does not teach that the web runs in the region of the largest extent. In addition, Filser et al. does not teach that the web is a circumferential one. Therefore, Filser et al. does not teach that a circumferential web is split by circular milling using a milling tool set in its depth to recover the molded piece. In fact, Filser et al. teaches away from such a situation. In column 3, lines 55-61, of Filser et al. it is stated that:

"With respect to the method, the object is achieved according to the invention in that a preselected workpiece is continuously exposed from the ceramic blank until only holding webs which can be freely selected according to position and number are formed which end directly on the residual material of the blank in the region of the frame or on the frame." (emphasis added)

What motivation exists for a person of ordinary skill in the art to modify Filser et al. to arrive at a circumferential web formed in the outer boundary range and in the area of the largest extent of the molded piece? Where is the motivation to modify Filser et al. to arrive at a circumferential web that contacts the molded piece around the entire periphery of the molded piece?

Clearly, neither Bodenmiller et al. nor Suttor et al. provide such motivation.

Bodenmiller et al. discloses a method for producing a dental prosthesis according to a totally different principle from that of Filser et al. According to Bodenmiller et al., a blank is embedded into an embedding mass 3, in order to produce a section of the molded piece from the blank. The machined part of the blank is then again embedded into a new embedding mass (see Fig. 5) to treat the remaining part of the blank. The pertinent parts of Bodenmiller et al. read as follows (col. 8, lines 14 et seq.):

"After the machining of the underside of the workpiece 6 is completed, the embedding mass 3 is subsequently once again poured into it (FIG. 4). It would also be possible to fill up the previously milled-out inside of the crown with the milling wax 3 again already before the machining of this first area of the outside of the crown, in order to support the side walls of the crown."

Clearly, this method has nothing to do with Filser et al.'s method of machining a workpiece, and thus, a person or ordinary skill in the art would not even consider using the technique taught by Bodenmiller et al. to further develop the method of producing a molded piece taught by Filser et al. Moreover, even if Filser et al. and Bodenmiller et al. are combined, the Applicant's invention would not have resulted, because there is

no disclosure or suggestion in either of these references of (1) a circumferential web formed in the outer boundary range and in the area of the largest extent of the molded piece, and (2) a circumferential web that contacts the molded piece around the entire periphery of the molded piece, as required by the claims.

The Suttor et al. reference is similarly defective.

Suttor et al. discloses different methods of working a blank, by a rough milling and a fine milling, to produce dentures. The reference is silent on how a dental piece to be produced remains connected with the blank, in order to obtain a finished dental piece upon separation of the connection between the dental piece and blank making any further treatment unnecessary. The Suttor et al. reference therefore does not disclose or suggest (1) a circumferential web formed in the outer boundary range and in the area of the largest extent of the molded piece, and (2) a circumferential web that contacts the molded piece around the entire periphery of the molded piece, as required by the claims.

Consequently, the cited documents offer no hint of using a mold blank instead of a molded dental piece, and to work the dental piece out of the mold blank with a circumferential connection between the dental piece and the blank remaining.

The obvious deficiencies in Filser et al., Bodenmiller et

al., and Suttor et al. are not cured by the newly cited Hintersehr reference.

Hintersehr discloses a method and device for producing a dental prosthesis. For this purpose, a blank 30 is used from which a dental prosthesis is prepared. As set forth in col. 2, lines 40- 43:

"Ein Rohling 30, aus dem eine Dentalprothese, beispielsweise eine Krone hergestellt werden soll, besitzt schlanke zylindrische Form, deren Durchmesser wesentlich kleiner als die lichte Weite des Rings 20 ist."

which can be translated as:

"A blank 30, from which a dental prosthesis, e.g. a crown is to be produced, has a slight cylindrical shape whose cross section is essentially smaller than the inner width of the ring 20."

The purpose of the ring 20 is to hold the blank. Subsequently, the ring is inserted into the chuck 1 of a treating machine. Claim 1 of Hintersehr recites:

"Verfahren zur Herstellung einer Dentalprothese, insbesondere Krone, aus einem Rohling, der in ein Futter eingespannt und bearbeitet wird, dadurch gekennzeichnet, dass der Rohling (30) in einem Ring (20) eingebettet und Ring (20) mit Rohling (30) in das Futter (1) eingespannt wird."

which can be translated as:

"Method for producing a dental prosthesis, especially

crown, from a blank which is clamped into a chuck and treated, characterized in that the blank (30) is embedded in a ring (20) and that ring (20) with blank (30) are clamped in the chuck (1)."

At col. 2, lines 10-12, Hintersehr states:

"Das Futter 1 einer nicht dargestellten Bearbeitungsmaschine, beispielsweise einer rechnergesteuerten Fräsmaschine, besteht aus einer massiven Stahlplatte . . ."

which can be translated as:

"Chuck 1 of a treating machine not shown, e.g. a computer controlled milling machine, is made of a solid steel plate . . ."

The dental prosthesis is then prepared from the blank, for example by means of a milling cutter, requiring that any contact with the ring is avoided. As stated in col. 3, lines 20-23, of Hintersehr:

"Es muss sichergestellt sein, dass bheispielsweise bei der Bearbeitung des Rohlings 30 mittels eines Fräzers zuverlässig vermieden wird, dass der empfindliche Fräser den Ring 20 kontaktiert."

which can be translated as:

"It must be ensured that e.g. during machining the blank 30 with a milling cutter it is avoided reliably that the sensitive milling cutter contacts the ring 20."

Fixing the blank inside blank can be achieved either by shrinking on (claim 2) or by a dental adhesive (claim 3).

Hence, the ring of Hintersehr is a ring for fixing and holding the blank. The ring 20 of Hintersehr corresponds to the frame 12 of Filser et al. (see e.g. Figs. 2, 3, 5-11). The ring 20 is an auxiliary means for fixing the blank in a working machine. Consequently, the ring is an element surrounding the blank.

In sharp contrast to this, the present invention provides that the dental prosthesis to be produced from a blank remains inside the blank, with the dental prosthesis being connected with the blank via a circumferential web (claim 1) or a circumferential membrane (claim 12), being integral parts of the blank.

Totally different working principles are used: Hintersehr requires the use of a separate element for obtaining the dental prosthesis to be produced. The present invention, on the other hand, uses an integral component of the blank to obtain a dental prosthesis.

While Hintersehr requires the use of different rings depending on the dental prosthesis to be produced, the invention offers the advantage to produce several parts of dental prosthesis, each part remaining connected with the blank.

In view of the above, it is submitted that none of the cited prior art references disclose or suggest (1) a circumferential

web formed in the outer boundary range and in the area of the largest extent of the molded piece, and (2) a circumferential web that contacts the molded piece around the entire periphery of the molded piece, as required by the claims.

Regarding independent claim 12, the Examiner asserts that Filser et al. discloses a dental piece connected with the blank via a circumferential membrane having openings. Such an interpretation of Filser et al. is unsustainable, in view of FIGS. 7 and 10 of Filser et al., which clearly do not show a dental prosthesis connected with a blank via a membrane.

Furthermore, the Bodenmiller et al. reference does not even hint at the problem of allowing a dental piece to remain connected with a blank, because Bodenmiller et al. uses a different method by embedding the blank, and respectively, the partially worked out dental prosthesis into an embedding mass. Because it is necessary that the blank, and respectively the partially treated blank, is always embedded in an embedding mass, it follows that the Applicants' method of producing the blank is totally different to the method used by Bodenmiller et al.

A combination of Filser et al., Bodenmiller et al., and Hintersehr also fails to teach or suggest the invention of claim 22, which directly depends on claim 12, and is directed to the

perforated circumferential membrane.

Hintersehr does not disclose or suggest a circumferential membrane, but rather, a separately produced ring by means of which a blank is clamped. Additional method steps are necessary to produce a molded piece. A separate ring needs to be produced into which the blank is inserted. This requires additional measures, namely gluing the blank in place, or shrinking it on. The respective measures have nothing in common.

In view of the above, it is submitted that the rejections under 35 U.S.C. 103(a) are unsustainable and should be favorably reconsidered and withdrawn.

Applicants submit that the present application is now in condition for allowance and early notice of such action is earnestly solicited.

Applicants hereby petition the Commissioner for Patents to extend the time for reply to the Office action dated April 12, 2011, for one (1) month from July 12, 2011, to August 12, 2011. A duly completed credit card authorization form is attached to effect payment of the extension fee.

Respectfully submitted



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